Phocylides' treatise as a work in which the discovery of new satellites was mentioned. But apparently he did not remember very accurately the position assumed by the author, for the book contains but little to encourage an observer in the belief that he has discovered new satellites.

It is perhaps worth noticing that the Philosophia was published less than fourteen years before the date of Winthrop's letter; it must therefore have been quite a new book when Winthrop perused it, as he says, "many years since."

CHARLES W. L. JOHNSON.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—Prof. J. Burdon Sanderson has been appointed Regius Professor of Medicine in succession to Sir Henry W. Acland, whose resignation was announced last Term. In accepting the Regius Professorship, Prof. Sanderson vacates the Waynflete Chair of Physiology, which is more valuable in a pecuniary sense. It is naturally a matter of regret that he should formally sever his connection with the school of Physiology which he may be said to have created in Oxford, but it is recognised that no better appointment could have been made to the headship of the Medical School which he has done so much to encourage, and whose interests he will have further opportunities of promoting in his new position.

At a meeting of the Royal Statistical Society held on Tuesday, a paper was read, by Mr. L. L. Price, on "The Colleges of Oxford and Agricultural Depression." The accounts of the Oxford and Cambridge Colleges have been published year by year for some time past, and in Mr. Price's paper the accounts of the Oxford Colleges for the years 1883–93 were brought under review. The gross external receipts of the Colleges were in 1893 some £11,000 less than in 1883, and the net external receipts some £13,000. Though the external receipts are not entirely derived from agricultural estates, it seems within the facts to regard agricultural depression as responsible for a loss of upwards of £60,000 of income in 1893. Turning to the effects of the depression upon the emoluments of the Heads, Fellows, Scholars, and Exhibitioners, to which the College revenues are mainly devoted, it appears that these effects have been mitigated by the circumstances that the external receipts are not exclusively agricultural, and that the emoluments are also partly derived from internal receipts and from Trusts. Still the emoluments of the Heads have fallen from £22,811 to £20, 905, and of the Fellows from £83,820 to £74,749. The emoluments of the Scholars and Exhibitioners have however increased from £44,776 to £48,378. and their number has grown by upwards of ninety; and if the increased contributions made by the Colleges to the University are taken into consideration, the fall in the total payments is only about 5 per cent. But there are Colleges, where diminutions have occurred of more than 25 per cent. in the emoluments of the Fellows, and the figures generally are altered considerably for the worse by eliminating a few prosperous Colleges.

CAMBRIDGE.—Mr. A. Hutchinson, Fellow of Pembroke College, has been appointed Demonstrator of Mineralogy and Assistant-Curator of the Museum, in place of Mr. Solly, who has retired.

The Downing Professor of Medicine (Dr. Bradbury) announces that the newly-organised Museum of Materia Medica and the Pharmacological Laboratory are now open daily to students of medicine, and that demonstrations will be given therein by Mr. Marshall, the assistant to the Professor.

Dr. Gaskell, F.R.S., has been appointed an additional member of the Board for Biology and Geology.

THE Royal Agricultural Society has now issued its revised regulations and syllabus for the society's senior examinations, framed in accordance with the important modifications recently decided upon. The council have resolved to place annually at the disposal of their education committee five life memberships of the society, to be awarded to the five candidates who stand highest on the list of winners of first-class certificates, and who obtain not less than two-thirds of the maximum number of marks. The gold medal of the society will be bestowed upon the candidate who stands highest on the list of winners of life memberships, provided that he has obtained not less than three-fourths of the maximum number of marks, and silver medals upon the other winners of life memberships, including the candidate at the head of the list, if he does not reach the standard required for a gold medal.

THE Association of Head Masters held its first meeting as an incorporated body on Thursday last. One of the items of the agenda was a paper in which Mr Stuart described the usual practice of teaching science, and said most of them were satisfied that such a system had no educational value at all. All experiments must be capable of being performed and the observations made by the students. The experiments must be chiefly quantitative and especially at first. Books and lecture demonstrations must be avoided. He thought that a good grounding in science might be given by doing practical work in an ordinary class-room, upon common tables, with home-made apparatus. The following resolutions were afterwards passed by the meeting:—

(*a*) "That the association is of opinion that examining bodies should encourage a more rational method of teaching science, by framing the syllabuses in such a manner that the practical work required may be strictly illustrative of the theoretical instruction given."

(*b*) "That it be referred to the general committee to appoint a small sub-committee, so that a report may be presented to the next summer general meeting containing detailed suggestions which it is proposed to make to examining bodies concerning examinations in science."

THE Research Scholarship given by her Majesty's Commissioners for the Exhibition of 1851, to Mr. Edward Taylor Jones, of the University College of North Wales, in 1892, has been renewed for a third year. Such renewal is only made in cases of exceptional merit, where valuable scientific results are likely to be obtained by a continuance of the scholar's research work. Mr. Jones has just completed, at the University of Berlin, an experimental investigation solving an important problem in magnetism. An account of the research has been communicated to her Majesty's Commissioners, and will shortly be published.

THE Professorship of Mathematics in the Government Training College, Ireland, vacant by the retirement of Principal Corbett, has been filled by the appointment of Mr. Dilworth, of Trinity College, Dublin.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, January 7.—M. Marey in the chair.—A list of the present members, foreign associates, and correspondents of the Academy is given.—M. A. Cornu was elected Vice-President for 1895.—Preparation, in the electric furnace, of *graphites foisonnants*, by M. Henri Moissan. For all varieties of graphite prepared by intense heat, the temperature of intumescence after soaking in nitric acid is about 165°–175° C. They resemble natural graphites in this and other respects, hence the probability that the latter have been produced at a very high temperature under moderate pressures in masses of iron which have since disappeared.—The vasomotor nerves of the veins, by M. L. Ranvier. From the results of experiments quoted, the author concludes that veins as well as arteries are supplied with vasomotor nerves.—On the first scientific voyages of the *Princess Alice*, by Prince Albert I. of Monaco.—An addition to Le Verrier's theory of the movement of Saturn and rectification of the Tables, by M. A. Gaillot.—On the approximate development of the perturbation function, by M. N. Coculesco.—On roots common to several equations, by M. Walther Dyck.—On the theory of a system of differential equations, by M. A. J. Stodolkievitz.—On the theory of exchangeable substitutions, by M. Demeczky.—On the absolute value of the magnetic elements on January 1, 1895, by M. Th. Moureaux. The values are given for (A) Parc Saint-Maur, Long. 0° 9′ 23″ E. and Lat. 48° 48′ 34″ N.; (B) Perpignan, Long. 0° 32′ 45″ E. and Lat. 42° 42′ 8′ N.

Elements.	Abs. values Jan. 1, 1895.		Secular variation in 1894.	
Declination	(A) 15° 12′·7	(B) 4° 3′·4	(A) −5′·3	(B) −5′·0
Inclination	65 4·9	60 9·9	−1·2	−0·8
Horizontal component	0·19641	0·22345	+0·00017	+0·00025
Vertical component	0·42277	0·38961	−0·00003	+0·00021
Total force	0·46617	0·44914	+0·00005	+0·00031

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Use of the critical temperature of liquids for the recognition of their purity, by M. Raoul Pictet. A convenient method of determining the critical points of liquids is described. Any impurity causes a difference in the critical temperatures in the same sense as the difference produced in the boiling points, but in the former case the difference is of far greater magnitude than in the latter.—On the qualitative separation of nickel and cobalt, by M. A. Villiers. The author avails himself of the property of sodium tartrate in preventing the precipitation of nickel sulphide while allowing the complete precipitation of cobalt sulphide. Tartaric acid is added to the clear solution of the two metals, then soda (not potash) in large excess and hydrogen sulphide is passed. The nickel passes into the filtrate as a nearly black solution, mere traces give a brown tinge. The method is not quantitative.—Some points in the spermatogenesis of the Selacians, by M. Armand Sabatier.—On the genesis of intestinal epithelium, by M. Étienne de Rouville. Observations confirm the author's views that: (1) The conjunctive tissue continues more or less, during life, to be the matrix giving rise to the elements of other tissues; it is a post-embryonic blastoderm. (2) Epithelial tissues are only, in most cases, the forms limiting the free surfaces of conjunctive tissue.—Physiological researches on the Lamellibranchs (*Tapes decussata*, &c.), by M. Piéri.—On some lakes in the Alps and Pyrenees, by M. A. Delebecque. The depths and altitudes of most of the important mountain lakes are given.

BERLIN.

Physical Society, November 30, 1894.—Prof. von Bezold, President, in the chair.—Dr. Aschkinass described his experiments on the influence of electric waves on the galvanic resistance of metallic conductors. Gratings made of tinfoil when placed near a Hertz exciter showed a diminished resistance which was quite independent of the action of light due to the primary sparks, and was persistent after the cessation of the electric oscillations, but could then be restored to its original value by mere mechanical percussion. A series of experiments proved that it is really the electric waves which altered the resistance of the grating, and the results were extended to other metallic conductors. The speaker drew attention to analogous observations made by English and Swiss physicists who had found that filings of iron and other metals enclosed in glass tubes had their resistances altered by electric sparks discharged in their neighbourhood. In their case, also, the original resistance was restored by mechanical vibration.—Dr. Gross spoke on the electrolysis of a solution of mixed nitrate and sulphate of silver to which a little nitric acid had been added. Silver was deposited on the kathode, and a black substance on the anode; the latter he had not as yet obtained free from silver, but it did not contain any sulphur, although 60 per cent. of sulphuric acid had disappeared from the solution.

Physiological Society, December 7.—Prof. du Bois Reymond, President, in the chair.—Prof. L. Lewin gave an account of some experiments made with an alkaloid obtained from a North Mexican cactus called "Peyotl." It is well known that this plant has an intoxicating action, and in larger doses produces sleep and a state of nervous excitation accompanied by a so-called "power of prophesying," similarly attributed to the sulphurous exhalations of the temple at Delphi. Small doses of the alkaloid when given to frogs produced tetanic cramps and a greatly increased reflex irritability, analogous to strychnine; but with this difference, that by carefully apportioning the dose the effects were permanent for several days. Similar results were obtained with rabbits, and Prof. Lewin regarded the new alkaloid as specially adapted to further the study of the nature of tetanus. In rabbits it was noticed that during each paroxysm of cramps, the blood-vessels of the ears were widely distended. The speaker had also found alkaloids with powerful actions in many species of Cactus hitherto regarded as harmless by botanists, notably one closely resembling curare.—Dr. G Joachim had investigated sphygmographically the effect of suspension by the head on the circulation, and in the case of a number of invalids, of whom some were suffering from heart-disease, had observed only a slightly increased frequency of pulse, which is probably merely attributable to psychic excitation.—Prof. Gad communicated the results of an investigation, made by a new method by Mr. Seeler, of Cleveland, on the terminations of motor nerves in muscles, which had shown that in addition to the motor fibre a non-medullated fibre leaves the sheath of Henle, and is distributed to the capillaries of the muscle-fibre, whereas the medullated motor-fibres spread out o the muscle itself

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—Logic: Dr. C. Sigwart, translated by H. Dendy, 2 Vols., 2nd edition (Sonnenschein).—Les Abimes: E. A. Martel (Paris, Delagrave).—Essays on Rural Hygiene: Dr. G. V. Poore, 2nd edition (Longmans).—Annuaire de l'Académie Royale des Sciences, &c., de Belgique, 1895 (Bruxelles).—Astronomische Chronologie: Dr. W. F. Wislicenus (Leipzig, Teubner).—Handbuch der Theorie der Linearen Differentialgleichungen: Dr. L. Schlesinger, Erster Band (Leipzig, Teubner).—Laboratory Exercises in Botany: Prof. E. S. Bastin (Philadelphia, Saunders).—Smithsonian Report, 1893 (Washington).—Geological Survey, Alabama, Report on the Geology of the Coastal Plain of Alabama (Montgomery, Alabama).—Tables and Directions for the Qualitative Chemical Analysis of Moderately Complex Mixtures of Salts: M. M. P. Muir (Longmans).

PAMPHLETS.—Eighth Annual Report of the Liverpool Marine Biology Committee and their Biological Station at Port Erin: Prof. Herdman (Liverpool, Dobb).—On the Search for Coal in the South-East of England: W. J. Harrison (Birmingham).—Eine Discussion der Kräft der Chemischen Dynamik: Dr. L. Stettinheimer (Frankfurt a.M., Bechhold).—The Varieties of the Human Species: Prof. G. Sergi (Washington).—Royal Horticultural Society Report for 1894–5 (Victoria Street).—Ditto, Arrangements for 1895 (Victoria Street).

SERIALS.—Geographical Journal, January (Stanford).—American Journal of Science, January (New Haven).—Gazetta Chimica Italiana, Anno xxiv. 1894. Fasc. vi. (Roma).—Proceedings of the Physical Society of London, January (Taylor).—Journal of the Chemical Society. January (Gurney).—Ditto, Supplementary Number (Gurney).—Record of Technical and Secondary Education, January (Macmillan).—Beiträge zur Petrographie der Östlichen Centralalpen speciell des Gross-Venedigerstockes: Dr. E. Weinschenk, I. and II. (München).—Morphologisches Jahrbuch, 22 Band, 2 Heft (Leipzig, Engelmann).—Journal of the Franklin Institute, January (Pilhadelphia).—Journal of the Royal Horticultural Society, January (Victoria Street).—Engineering Magazine, January (Tucker).

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